UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,440	06/26/2003	John Robert Lockemeyer	TH-1808 US	2927

7590 02/25/2005

Richard F. Lemuth
Shell Oil Company
Intellectual Property Services
P. O. Box 2463
Houston, TX 77252-2463

EXAMINER	
HAILEY, PATRICIA L	

ART UNIT	PAPER NUMBER
1755	

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/606,440	LOCKEMEYER ET AL.	
	Examiner	Art Unit	
	Patricia L. Hailey	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) *26-38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/23/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-25, in the reply filed on December 22, 2004, is acknowledged.

2. Claims 26-38 are hereby withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected process for the epoxidation of an olefin (claims 26-37) and to a non-elected process for producing a 1,2-diol, 1,2-diol ether, or an alkanolamine (claim 38), there being no allowable generic or linking claim.

Applicants' election without traverse of Group I, claims 1-25, on December 22, 2004, is noted. Claims 26-38, drawn to non-elected inventions, are hereby withdrawn from consideration.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 lacks antecedent basis. Specifically, claim 4 requires the presence of rhenium (..."in addition to silver, rhenium or compound thereof"; see lines 2 and 3 therein), whereas claim 3, from which claim 4 depends, does not require the

presence of rhenium ("one or more selectivity enhancing dopants selected from rhenium,...").

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1, 3, 4, 6-17, and 19-25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 10/607,346.

Although the conflicting claims are not identical, they are not patentably distinct from each other because although the instant claims are directed to a method for improving the selectivity of a supported highly selective expoxidation catalyst, and the claims in the '346 application are directed to a method for the start-up of a process for the epoxidation of an olefin, the respectively recited method

steps are the same-- contacting a catalyst with a feed comprising oxygen at a catalyst temperature above 250°C or 260°C for up or at most 150 hours, and subsequently decreasing the temperature to at most 250°C or 260°C.

Additionally, the respective sets of claims recite overlapping ranges for, for example, the quantity of silver present in the catalysts, for the feed components, and process temperature ranges.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1-25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hayden et al (U. S. Patent No. 4,007,135).

Hayden et al. teach catalysts for the production of alkylene oxides comprising silver supported on a support having a specific surface area ranging from 0.04-10 m^2/g, median pore diameters of 0.3 to 15 microns, and also comprising a promoting

amount of metals such as niobium, tantalum, molybdenum, tungsten, vanadium, chromium, calcium, magnesium, strontium, or barium. See col. 1, lines 20-41 of Hayden et al., as well as col. 2, lines 16-30.

The support may be alumina, and is preferably alpha-alumina. Further, the catalyst preferably comprises 3 to 15% by weight of silver. See col. 3, lines 21-50 of Hayden et al.

Because Hayden et al. disclose an alpha-alumina support having a surface area comparable to that respectively claimed, the weight percentage range of the silver recited in this reference is considered to read upon Applicants' claim limitations regarding the quantity of silver (e.g., "0.17 g/m^2 surface area of the support").

At col. 5, line 28 to col. 6, line 4, Hayden et al. discuss the conversion of ethylene to ethylene oxide, and of propylene to propylene oxide, in the presence of the aforementioned catalysts. These conversions involve contact of the catalyst with feeds comprising either ethylene or propylene, oxygen (in the form of air or commercial oxygen), carbon dioxide, and, optionally, a reaction modifier. Temperatures at which contact takes place ranges from 190°C-270°C for ethylene and from 200°C to 300°C for times sufficient to covert up to 50% of, for example, propylene.

Example 7 of Hayden et al. depicts the preparation of a catalyst comprising α-alumina, silver, and barium, wherein the support is impregnated with barium

hydroxide, followed by heating in an air atmosphere at 300°C for 60 minutes, followed by forming a second solution of silver and barium acetates. The final catalyst is passed over with a gas mixture containing 30% ethylene, 8% oxygen, 62% nitrogen, and 4 ppm ethylene dichloride, during which selectivity and conversion were determined at 240°C.

In view of these teachings, Hayden et al. anticipate claims 1-25.

In the alternative, Hayden et al. do not specifically disclose a "method for improving the selectivity of a...catalyst", as recited in the instant claims. However, because Hayden et al. disclose the same or similar method steps, conditions, and catalyst components as respectively claimed, it would have been obvious to one skilled in the art at the time the invention was made to reasonably expect that the method of Hayden et al. would result in improved catalyst selectivity, in view of the strong similarities between Hayden et al. and the claimed reference.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patricia L. Hailey/plh
Examiner, Art Unit 1755
February 22, 2005

DAVID SAMPLE
PRIMARY EXAMINER